AMENDMENTS TO CLAIMS

The following listing of the claims replaces all prior claim versions and listings.

1. (Currently Amended) An image processing method comprising:

an input step of inputting an image; ~~and~~

an extraction step of performing matching between a template, obtained by modeling a predetermined structural component in the image, and the image input in the input step to extract a structural component as an extraction target in the image; and

an evaluation step of setting a plurality of different templates to evaluate a result of matching using the different templates, wherein

the structural component is extracted on the basis of the evaluation result in the evaluation step.

2. (Original) The image processing method according to Claim 1, further comprising:

a position specification step of specifying a position of the extraction target structural component in the input image by matching using the template, wherein

in the extraction step, the extraction target structural component is extracted on the basis of the matching result in the position specification step.

3. (Currently Amended) The image processing method according to Claim 1, wherein each of the different templates is determined on the basis of the number of pixels corresponding to ~~the~~ a width of the structural component and ~~the~~ a magnitude of variation in the width.

4. (Canceled)

2

5. (Currently Amended) The image processing method according to Claim 1, wherein the

structural component includes a blood vessel in an observation image of a living mucosa, and

the structural component is determined on the basis of the template or ~~the~~ a width of ~~a~~ the

blood vessel in the image, and contrast.

6. (Original) The image processing method according to Claim 2, further comprising:

an extraction image formation step of forming a structural component extraction image

on the basis of the position of the structural component and the template.

7. (Currently Amended) The image processing method according to Claim [[4]] 1, wherein

the matching includes a local correlation operation between each of the different templates and

the image and extracts ~~a~~ the structural component corresponding to a template having the highest

correlation based on the correlation operation results.

8. (Original) The image processing method according to Claim 7, wherein the correlation

operation includes a normalized cross-correlation.

9. (Original) The image processing method according to Claim 1, wherein the template has a

one-dimensional shape of N×1 (N≥3) and the matching is performed to the image in a plurality

of directions.

10. (Currently Amended) An image processing method comprising:

3

an input step of inputting an image;

a first extraction step of performing a first region extraction process to the image input in the input step to extract a first region group including one or more regions; and

a second extraction step of performing a second region extraction process for every region included in the first region group.

11. (Original) The image processing method according to Claim 10, wherein

in the first extraction step, the region group is extracted such that the region group redundantly includes a structural component to be extracted in the image, and

in the second extraction step, the region group is extracted such that an unnecessary structural component is eliminated from the first region group.

12. (Currently Amended) The image processing method according to Claim 10, wherein in the first extraction step, the region is extracted on the basis of the a logical operation of a first binary image and a second binary image, the first binary image being based on the a result of first filtering with first pass frequency band characteristic, the second binary image being based on the a result of second filtering with second pass frequency band characteristic.

13. (Original) The image processing method according to Claim 12, wherein the logical operation separates the region group, extracted in the first binary image based on the first filtering result, into regions including a desired structural component and regions including no desired structural component.

4

14. (Original) The image processing method according to Claim 13, wherein

the first pass frequency band characteristic is determined on the basis of the structural component in the image, and

the second pass frequency band characteristic is determined relatively lower than the first pass frequency band characteristic.

15. (Original) The image processing method according to Claim 13, wherein the logical operation extracts pixels, extracted in both the binary images based on the first and second filtering results, as the first region group.

16. (Original) The image processing method according to Claim 15, wherein in the second extraction step, threshold processing is performed to the first filtering result corresponding to each extracted region in the first region extraction result to extract a region.

17. (Original) An image processing method comprising:

a filtering step of performing first and second band pass filtering to an image;

a first binary image formation step of forming first and second binary images from the first and second band pass filtering results;

a region group specification step of specifying a first region group including a structural component to be extracted in the image and a second region group including no structural component on the basis of logical operation for the first and second binary images;

a re-extraction step of again extracting a desired structural component from the first region group on the basis of the second region group specified in the region group specification

5

step; and

a second binary image formation step of forming a binary image every region included in the first region group.

18. **(Currently Amended)** An image processing method comprising:

an input step of inputting an image;

a reference image input step of inputting a reference image including information to specify a structural component to be extracted in the image input in the input step;

a parameter generation step of generating a plurality of parameters for a process of extracting the structural component;

an extraction image formation step of performing the process of extracting the structural component to the input image using the parameters generated in the parameter generation step to form a plurality of extraction images;

a comparison step of comparing ~~the~~ degrees of matching between the extraction results of the extraction images formed in the extraction image formation step and the structural component in the reference image; and

a parameter specification step of specifying the parameters with high degree of matching on the basis of the ~~comparison result~~comparing of the degrees of matching in the comparison step.

19. **(Original)** The image processing method according to Claim 18, wherein the extraction process includes a binarization process.

20. (Currently Amended) An image processing method comprising:

an input step of inputting an image;

an extraction step of extracting a predetermined structural component from the image input in the input step; and

a feature-amount calculation step of calculating ~~the~~ an amount of feature based on ~~the~~ a width of the structural component extracted in the extraction step.

21. (Original) The image processing method according to Claim 20, wherein

the extraction in the extraction step includes a binary image formation step of forming a binary image of the predetermined structural component in the image, and

the width of the structural component is based on the result of a distance transform and skeleton process for the binary image.

22. (Original) The image processing method according to Claim 20, wherein the amount of feature includes a numeric value to evaluate the magnitude of variation in the width of the structural component.

23. (Original) The image processing method according to Claim 22, wherein the numeric value includes a standard deviation or distribution.

24. (Original) An image processing method comprising:

an input step of inputting an image comprising a plurality of color signals;

an extraction step of extracting desired structural components from at least two of the

7

color signals constituting the image input in the input step; and

a calculation step of calculating the combination of the amounts of feature based on the structural components extracted in the extraction step.

25. (Original) The image processing method according to Claim 24, wherein

the extraction in the extraction step includes a binary image formation step of forming a binary image of each structural component, and

in the calculation step, the combination of the amounts of feature is calculated based on the binary images.

26. (Original) An image processing method comprising:

an input step of inputting an image including a plurality of color signals;

an extraction step of extracting desired structural components from at least two of the color signals constituting the image input in the input step;

a combination step of combining the structural components extracted in the extraction step; and

a calculation step of calculating the amount of feature based on the combination result in the combination step.

27. (Original) The image processing method according to Claim 26, wherein in the combination step, the combination is performed on the basis of local values of the structural components.

28. (Original) The image processing method according to Claim 1, wherein the image input in the input step includes an endoscopic image.

29. (Original) The image processing method according to Claim 1, wherein the structural component includes a blood vessel or a pit in the image.

30. (Currently Amended) An image processing system comprising:

an input unit for inputting an image; ~~and~~

an extraction unit for performing matching between a template, obtained by modeling a predetermined structural component in the image, and the image input in the input ~~step~~ unit to extract a structural component serving as an extraction target in the image:

an evaluation unit for setting a plurality of different templates to evaluate a result of matching using the different templates, wherein

the structural component is extracted on the basis of the evaluation result in the evaluation unit.

31. (Original) The image processing system according to Claim 30, further comprising:

a position specification unit for specifying a position of the extraction target structural component in the input image, wherein

the extraction unit extracts the extraction target structural component on the basis of the matching result obtained by the position specification unit.